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bodies, which retain an electric charge on their surfaces, or which, by a change of form from mechanical pressure or difference of temperature, exhibit differences of electric state. In speaking of a charged electric, we may consider it a pile of an infinite number of plates, each of which, except the extreme surfaces, is composed of a surface of atoms, which are acted on by two sets of induced electric forces, whose differences, arising from their distances from the extremes, we discover when we split the plate, or if it be a pile, when we separate the plates from each other."

January 11, 1841.

His Grace the ARCHBISHOP OF DUBLIN, V. P.,
in the Chair.

Rev. Henry Barry Knox, Rev. John West, Thomas Fortescue, Esq., M. P., Chichester Bolton, Esq., and Henry Coulson Beauchamp, M. D., were elected Members of the Academy.

The Rev. Thomas H. Porter, D.D., read a paper "On the Deposits of Gravel in the Neighbourhood of Dublin."

After detailing the facts commonly known as to the stratified beds and ridges of limestone gravel, lying over the great central limestone region of Ireland, and the continuance of deposits containing a large proportion of rounded pebbles and stones of the same material, over the granite and other primitive rocks to the eastward of the limestone country; it was argued that there were clear indications of a great diluvial action from west to east, by which the surface of the limestone was reduced to its present level, and the remains of its upper portions spread over the limestone region itself, and carried eastward to the sea. The occurrence of similar calcareous deposits in the seaward glens and valleys of the Dublin and Wicklow mountains for some miles south, and on their sides to a considerable height, was ascribed to the current of the same deluge, sweeping the transported substances over the lower parts of the mountain range, and then turning southwards along the sea coast, after passing the north flank of the mountains. Similar facts, but in an inverted order, from south to north, have been observed towards the southern flank, in the County Wexford.

It was urged, that the subsiding waters of this inundation, rushing down the valleys, and meeting below with the main current on the plains, would throw up those ridges along the sides of the hills, and on the flats beneath; of which a remarkable example is presented in the glen of Ballynascorney, (through which the Dodder descends from the Dublin mountains,) and in the gravel hills in front of that, from Tallaght to Crumlin.

The direction assumed in this paper for the diluvial current agrees remarkably with that assigned by Professor Phillips, as the cause of the distribution of the Shapfell boulders over the north-east of England. A conjecture was proposed as to the possible occasion of such a movement of water over the country. The limestone tract was evidently formed under the sea. Its elevation may have been connected with the last great convulsion, which determined nearly the present form of the surface. Great disturbances are seen at Killiney, the Scalp, &c., to have attended the appearance of the granite, and even to have followed that period, affecting the granite itself. Many parts of the Irish coasts present such abrupt terminations towards the sea, as to indicate either a violent raising of the island from a continuous tract at the bottom, or a sudden sinking of an extent of dry land around the present surface.

Either of these events would create immense commotions in the waters.

Reference was made, in the course of this argument, to the theory of Professor Agassiz, respecting the supposed evidence, that glaciers once existed in the mountains of this island, and produced, as *moraines*, some of the accumulations of mountain debris commonly attributed to the agency of water. This theory having been pushed so far by some eminent British geologists as to have almost every ridge of gravel and stones unhesitatingly called a *moraine*, it was urged, that their principle could not be applied here at least, since the limestone abounding in the deposits of the glens could never have been brought down by ice from mountains in which no limestone rocks exist. It is but justice to Professor Agassiz to state, that *he* did not ascribe the limestone gravel ridges at Ballynascorney to a glacier; but professed to find the traces of one higher up the course of the stream.

Against the glacier theory, in general, it was maintained, that evidences of a glacier having existed in any locality must be derived from the existing form of the ground; and that, therefore, no considerable change of the surface could be admitted, since the time when the moraines were imagined to have been thrown up. More especially, no *deluge* could have taken place since their formation; for in that case, the moraines must have been swept away. Hence they must be supposed to have existed between Noah's flood and the commencement of the historical periods. This interval, it was contended, would not allow time for their formation and disappearance.

A gradual change of the temperature of the whole northern hemisphere would be at variance with the fact established by geologists, that the heat of the earth's surface had been formerly much greater than now.

Had the degree of cold necessary for the formation of glaciers, been owing to a greater elevation of this entire country, its sinking to its present level must have been attended with convulsions and floods, which could scarcely have failed to obliterate all vestiges of moraines.

An objection, brought from the known change of temperature in Greenland within modern times, was met by observing, that Greenland in its best days was always a land of glaciers; in the extent of which it is easy to suppose an occasional increase or diminution.

Mr. J. Huband Smith gave an account of the discovery, in the month of November last, of a human skeleton, accompanied with weapons, ornaments, &c., interred on the sea shore, in the vicinity of Larne, in the county of Antrim.

He suggested, that a timely effort to preserve a record of such interesting discoveries, can hardly fail to rescue from destruction some valuable "scattered leaves belonging to the lost books of history."

The locality in which these remains were found is one of considerable historical interest; it was within less than a mile of Olderflete Castle, where it will be remembered that Edward Bruce landed with a considerable force for the invasion of this country, in the beginning of the fourteenth century. A very cursory inspection, however, suffices to shew that these weapons and ornaments could not have belonged to one of his followers, but must be referred to a period considerably more remote. They consist of a sword of very characteristic form, double edged, and rounded at the point; measuring two feet eight inches and nearly a quarter in its extreme length; a small portion, said to have been about six inches in length, was broken off and lost at the time of its discovery; the blade varies from two inches to two inches and a quarter in breadth;—the head of a lance (both this and the sword are of iron or steel, much corroded);—a small and very elegantly formed bronze pin, which measures five inches and a half in